57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+

Principal cross sections

Energy (MeV)

Cross section (barns)

- total
- absorption
- elastic
- gamma production

Energy (MeV)

Cross section (barns)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
resonance total cross section
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
resonance total cross section

![Graph showing total cross section vs. energy (MeV). The graph is a log-log plot with y-axis labeled as Cross section (barns) ranging from $10^{-4}$ to $10^2$ and x-axis labeled as Energy (MeV) ranging from $10^{-4}$ to $10^{-3}$. The line labeled "total" shows a smooth decrease at lower energies and spikes at higher energies.]
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
resonance total cross section

![Graph showing total cross section vs energy (MeV) with a logarithmic scale for both axes.](image-url)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
resonance total cross section

![Graph showing resonance total cross section](image)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
resonance total cross section
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
resonance absorption cross sections

capture
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
resonance absorption cross sections

Capture cross section as a function of energy.
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
resonance absorption cross sections

Energy (MeV)

Capture
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
resonance absorption cross sections

capture
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
resonance absorption cross sections

Energy (MeV)

Cross section (barns)

capture
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
resonance absorption cross sections

capture

Cross section (barns)

Energy (MeV)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
UR total cross section

Energy (MeV) vs. Cross section (barns)

- Inf. Dil.
- 100 b
- 1 b
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
UR elastic cross section

Energy (MeV)

Cross section (barns)

10^{-1}

10^1

Inf. Dil.

100 b

1 b
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
UR capture cross section

![Graph showing capture cross section versus energy for Inf. Dil., 100 b, and 1 b.](Image)

Cross section (barns) vs. Energy (MeV)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Non-threshold reactions

![Graph showing cross sections for different reactions as a function of energy.](image-url)
Principal cross sections

Cross section (barns)

Energy (MeV)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Inelastic levels

Energy (MeV)

Cross section (barns)

Energy (MeV)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Inelastic levels

![Plot showing cross section vs. energy for different inelastic levels (n,n*6), (n,n*7), (n,n*8), (n,n*9), and (n,n*10). The x-axis represents energy in MeV, while the y-axis represents cross section in barns. The plot includes a legend for each level.](plot.png)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Inelastic levels

![Graph of cross section vs. energy for different inelastic levels]

- (n,n*21)
- (n,n*22)
- (n,n*23)
- (n,n*24)
- (n,n*25)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Inelastic levels

Energy (MeV) vs. Cross section (barns)

- (n,n*26)
- (n,n*27)
- (n,n*28)
- (n,n*29)
- (n,n*30)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Threshold reactions

![Graph showing cross-sections for different reactions as a function of energy. The x-axis represents energy in MeV, ranging from 0 to 200, and the y-axis represents cross-section in barns, ranging from 0 to 1.8. Lines for (n,x), (n,2n), (n,2nd), (n,3n), and (n,n*)a reactions are plotted.](image-url)
Threshold reactions

- $(n,2n)a$
- $(n,3n)a$
- $(n,n^*)p$
- $(n,n^*)2a$
- $(n,2n)2a$
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Threshold reactions

[Graph showing cross section vs. energy for various reaction types: (n,2np), (n,3np), (n,2np), (n,npa), (n,n+1c).]
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Threshold reactions

![Graph showing the cross section (barns) for different neutron reactions against energy (MeV). The reactions include (n,nda), (n,2npa), (n,5np), (n,6np), and (n,4na). The graph has energy on the x-axis and cross section on the y-axis. The cross section is shown in barns and is plotted on a logarithmic scale. The graph shows a significant rise in the cross section for (n,5np) and (n,6np) reactions as energy increases.]
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Threshold reactions

Energy (MeV)

Cross section (barns)

(n,5na)  
(n,6na)  
(n,4nd)  
(n,5nd)  
(n,3nt)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Threshold reactions

Cross section (barns)

Energy (MeV)

- (n, 4nt)
- (n, 5nt)
- (n, 2nhe3)
- (n, 3nhe3)
- (n, 4nhe3)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Threshold reactions

![Graph showing cross sections for different reactions as a function of energy.]

- (n,3n2p)
- (n,3n2a)
- (n,3n3a)
- (n,3n3a)
- (n,npd)
- (n,npt)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Threshold reactions

Cross section (barns) vs. Energy (MeV)

- (n,ndt)
- (n,nphe3)
- (n,ndhe3)
- (n,nthe3)
- (n,nta)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Threshold reactions

Energy (MeV) vs. Cross section (barns)

- (n,2n2p)
- (n,4n2p)
- (n,2n2a)
- (n,4npa)
- (n,n3p)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Threshold reactions

Energy (MeV)

Cross section (barns)

(n,3n2pa)
(n,5n2p)
(n,xp)
(n,xd)
(n,xt)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Threshold reactions

Cross section (barns) vs. Energy (MeV)

(n,xhe3)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for elastic
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for elastic
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*1)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*1)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for \((n,n^\ast2)\)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*2)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*3)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*4)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*4)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*5)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*5)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*6)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*6)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*7)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*7)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for \((n,n^8)\)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*8)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*9)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*9)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for \((n,n*10)\)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for \((n,n*10)\)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*11)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*11)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*12)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*12)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*13)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*13)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*14)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*14)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for \((n,n^{*15})\)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*15)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*16)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*16)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*17)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*17)
angular distribution for (n,n*18)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*18)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*19)
angular distribution for \((n,n^{*19})\)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*20)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*20)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*21)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*21)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*22)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*22)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*23)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*23)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for \((n,n^*24)\)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*24)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*25)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*26)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*26)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*27)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for \((n,n^*27)\)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n^*28)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*28)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*29)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*29)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*30)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
angular distribution for (n,n*30)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,x)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,2nd)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,2n)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,3n)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for \((n,n^*)a\)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,2n)a
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,3n)a
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,n*)p
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,n*)2a
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,2n)2a
Neutron emission for (n,n*)d
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,n*)t
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,n*)he3
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,n*)t2a
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,4n)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,2np)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,3np)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,2np)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,npa)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,n*c)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,5n)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,6n)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,2nt)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,4np)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,3nd)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,nda)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,2npa)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,5np)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,6np)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,4na)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,5na)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,6na)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,4nd)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,5nd)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,3nt)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,4nt)
Neutron emission for (n,5nt)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,2nhe3)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,3nhe3)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,4nhe3)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,3n2p)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,3n2a)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,3n)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,npd)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,npt)
Neutron emission for (n,ndt)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,nphe3)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,ndhe3)
Neutron emission for (n,n_the3)

Energy (MeV) vs Secondary Energy vs Probability/MeV

57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,nta)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,2n2p)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,4n2p)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,2n2a)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,4npa)

![3D graph showing neutron emission probability vs. energy. The x-axis represents energy (MeV) with values ranging from 2 to 60, the y-axis represents secondary energy with values ranging from 0 to 10^-1, and the z-axis represents probability (Probi/MeV) with values ranging from 10^-3 to 10^0. The graph includes several peaks indicating high probability at specific energies.]
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,n3p)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for (n,3n2pa)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Neutron emission for \((n,5n2p)\)
Photon emission for (n,x)
Photon emission for (n,2nd)
Photon emission for (n,2n)
Photon emission for (n,3n)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Photon emission for (n,n*)a
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Photon emission for (n,2n)a
Photon emission for (n,3n)a
Photon emission for \((n,n^*)p\)
Photon emission for (n,n*)2a
Photon emission for (n,2n)2a
Photon emission for (n,n*)d
Photons emission for (n,n*)t
Photon emission for \( (n,n^*)\text{he3} \)
Photon emission for (n,n*)t2a
Photon emission for (n,4n)
Photon emission for (n,2np)
Photon emission for (n,3np)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Photon emission for (n,2np)
Photon emission for (n,npa)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Photon emission for (n,n*c)
Photon emission for (n,gma)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Photon emission for (n,p)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Photon emission for (n,d)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Photon emission for (n,t)
Photon emission for (n,he3)
Photon emission for (n,a)
Photon emission for (n,2a)
Photon emission for (n,2p)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Photon emission for (n,pa)
 Photon emission for (n,t2a)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Photon emission for (n,pd)
Photon emission for (n,pt)
Photon emission for (n,da)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Photon emission for (n,5n)
Photon emission for (n,6n)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Photon emission for (n,2nt)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Photon emission for (n,ta)
Photon emission for (n,4np)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Photon emission for (n,3nd)
Photon emission for (n,nda)
Photon emission for (n,2npa)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Photon emission for (n,5np)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Photon emission for (n,4na)
Photon emission for (n,5na)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Photon emission for (n,6na)
Photon emission for \((n,4n\alpha)\)
Photon emission for (n,5nd)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Photon emission for (n,3nt)
Photon emission for (n,4nt)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Photon emission for (n,5nt)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Photon emission for (n,2nhe3)
Photon emission for (n,3nhe3)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Photon emission for (n,4nhe3)
Photon emission for (n,3n2p)
Photon emission for (n,3n2a)
Photon emission for \((n,3n\alpha)\)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Photon emission for (n,dt)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Photon emission for (n, npd)
Photon emission for (n,npt)

57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Photon emission for (n,ndt)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Photon emission for (n,nphe3)
Photon emission for (n,ndhe3)
Photon emission for (n,nthe3)
Photon emission for (n,nta)
Photon emission for (n,2n2p)
Photon emission for (n,phe3)
Photon emission for (n,dhe3)
Photon emission for (n,he3a)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Photon emission for (n,4n2p)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Photon emission for (n,2n2a)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Photon emission for (n,4npa)
Photon emission for (n,3p)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Photon emission for (n,n3p)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Photon emission for (n,3n2pa)
Photon emission for (n,5n2p)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
thermal capture photon spectrum
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
14 MeV photon spectrum
Particle heating contributions

Energy (MeV) vs. MeV/collision for protons, deuterons, tritons, he-3, and alphas.
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
Recoil Heating

![Graph showing recoil heating versus energy (MeV) with data points at various energies.]
Particle production cross sections

- Protons
- Deuterons
- Tritons
- He-3
- Alphas

Energy (MeV)

Cross section (barns)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
protons from (n,x)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60 + protons from (n,n*)p
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
protons from (n,2np)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
protons from (n,3np)

![Graph showing the probability of secondary energy (MeV) at different energies (MeV).]
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
protons from (n,2np)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
protons from (n,npa)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
protons from (n,p)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
protons from (n,2p)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
protons from (n,pa)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+ protons from (n,pd)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
protons from (n,pt)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
protons from (n,4np)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
protons from (n,2npea)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
protons from (n,5np)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY 2016.60+
protons from (n,6np)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
protons from (n,3n2p)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
protons from (n,3npa)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
protons from (n,npd)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
protons from (n,npt)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
protons from (n, nphe3)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
protons from (n,2n2p)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
protons from (n,phe3)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
protons from (n,4n2p)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
protons from (n,4npa)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
protons from (n,3p)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
protons from (n,n3p)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
protons from (n,3n2pa)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
protons from (n,5n2p)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
deuterons from (n,x)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
deuterons from (n,2nd)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
deuterons from (n,n*)d
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
deuterons from (n,d)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
deuterons from (n,da)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+ deuterons from (n,3nd)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
deuterons from (n,nda)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
deuterons from (n,4nd)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+ deuterons from (n,5nd)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
deuterons from (n,dt)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
deuterons from (n,npd)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
deuterons from (n,ndt)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
deuterons from (n,ndhe3)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+ deuterons from (n,dhe3)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
tritons from (n,x)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
tritons from (n,n*)t
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
tritons from (n,n*)t2a
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+ tritons from (n,t2a)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
tritons from (n,pt)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
tritons from (n,2nt)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
tritons from (n,ta)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
tritons from (n,3nt)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
tritons from (n,4nt)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJ2016.60+
tritons from (n,5nt)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
tritons from (n,dt)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
tritons from (n,npt)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
tritons from (n,ndt)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
tritons from \( (n,n\text{the3}) \)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
tritons from (n,nta)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+he3s from (n,x)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
he3s from (n,n*)he3
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
he3s from (n,he3)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+he3s from (n,2nhe3)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+he3s from (n,3nhe3)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
he3s from (n,4nhe3)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
he3s from (n,nphe3)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+ he3s from (n,ndhe3)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+he3s from (n,nthe3)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+ he3s from (n,phe3)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+he3s from (n,dhe3)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
he3s from (n,he3a)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
alphas from (n,x)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+ alphas from (n,n*)a
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
alphas from (n,2n)a
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+ alphas from (n,3n)a
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
alphas from (n,n*)2a
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+ alphas from (n,2n)2a
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
alphas from (n,n*)t2a
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
alphas from (n,npa)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+ alphas from (n,a)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
alphas from (n,2a)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
alphas from (n,pa)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
alphas from (n,t2a)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
alphas from (n,da)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+ alphas from (n,ta)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
alphas from (n,nda)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
alphas from (n,2npa)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
alphas from (n,4na)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+ alphas from (n,5na)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
alphas from \( n,6\text{na} \)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
aphas from (n,3n2a)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
alphas from (n,3n)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+
alphas from (n,nta)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+ alphas from (n,he3a)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+ alphas from (n,2n2a)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+ alphas from (n,4npa)
57-LA-139 FOR FENDL-3.2 (FENDL-3.2 DATA) BY NJOY2016.60+ alphas from (n,3n2pa)